

# The Cornell Countryman



APRIL

Volume XXIII

1926

Number 7

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## The Ox Woman

On an East Indian farm, where the crop is tea, a wooden plow turns up the rich black soil. A woman drives, another woman pulls—and a black ox pulls beside her.

The American field is plowed by a tractor; the farm home has many conveniences. But the farm woman of America often works as hard as her Oriental sister. She toils at the wash-tub, she carries water, she churns by hand—all tasks which electricity can do for her at small cost, in half the time.



Washing, cleaning, and pumping are the three main tasks which electricity does for the farm woman. But electric light, the electric iron, electric milkers and separators and a dozen other devices, are also making life easier on the farm.

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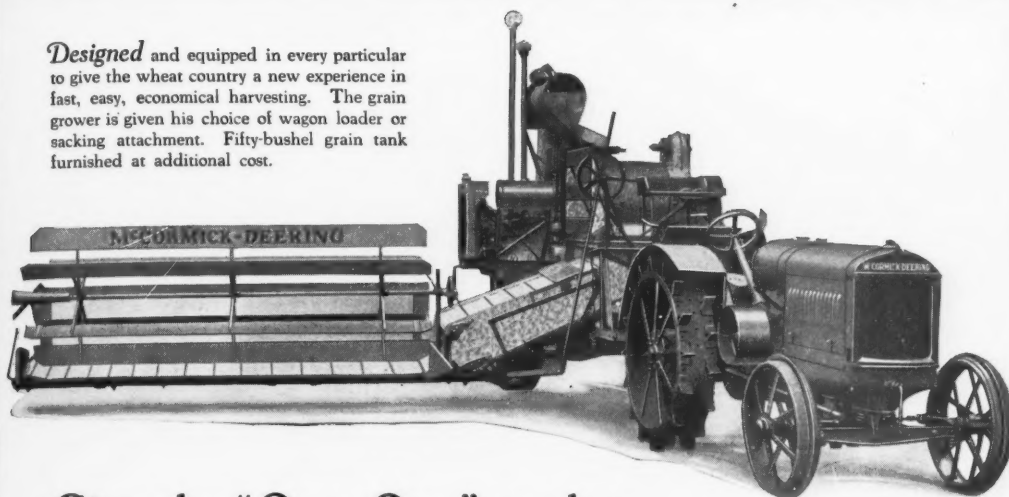
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## McCormick-Deering Harvester-Thresher

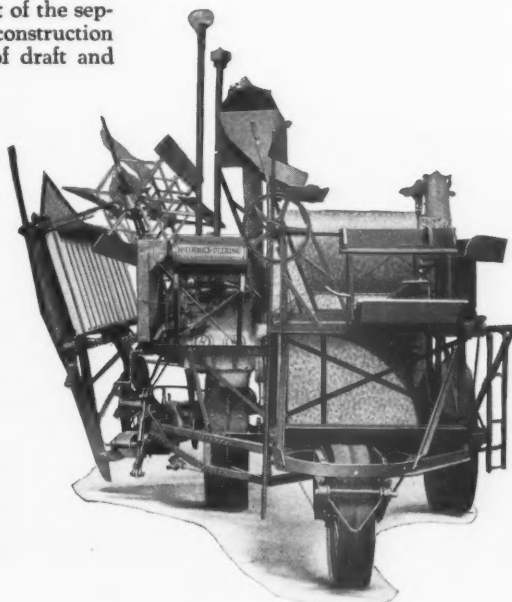
Illustrations on this page give a general view of the new prairie type harvester-thresher produced by the International Harvester Company. This model retains the popular qualities that have been developed during twelve years of McCormick and Deering harvester-thresher experience and embodies in addition a number of new features.

This machine follows the standard practice of stationary thresher manufacture in that 80 to 90 per cent of the separation takes place at the cylinder—a unique construction in harvester-threshers. Unusual lightness of draft and easy running qualities are effected through the use of self-aligning ball bearings at many points. The folding platform is described and shown below. A 2-man outfit of 12-foot cut.

International Harvester provides, for the Northwest a hillside harvester-thresher, and for the prairies a 10-foot machine, to be operated by power take-off from the tractor.

INTERNATIONAL HARVESTER COMPANY  
OF AMERICA  
606 S. Michigan Ave. (Incorporated) Chicago, Ill.

*At the right*, the front view of the machine, showing the easy-transport feature. The platform is shown folded back and drawn up close to the side of the thresher. In this position the machine measures only 12 feet 6 inches in width, narrow enough for any ordinary bridge or the average gate. The platform wheel is arranged to swivel like a caster, so that it swings into line and follows when the machine moves ahead.



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## RECOMMENDED BOOKS

There are many recommended to you at this time of the year. Especially this is true if you are a senior. We publish each year a list of Agricultural books which are recommended. Ask for a copy.

To be a "well read" man there are other books you must read. Thru time they have been tested by thousands. Ask to see such books as are found in the Everyman, Modern, Lambskin and Burt Classics.

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# The Cornell Countryman

A Journal of Country Life — Plant, Animal, Human

Volume XXIII

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Number 7

## Utilization of Soil Surveys in New York State

By F. B. Howe

ACCORDING to the nature of requests for soil survey reports received from residents of New York state and also from people residing outside of the state, there is some misconception concerning the relation of soil surveys to utilitarian purposes. Apparently this mis understanding comes from the lack of a standardized use of the term "Soil Survey."

One cannot better attempt to evaluate a soil survey than to regard it as doing for soils what Gray did for our native plants and the U. S. Geological Survey is doing for topography. In the typical case, whether in botany, geology, or soils, the surveyor is first concerned with the purely scientific aspects of the work. The primary duty of a soil surveyor is to collect data relative to the characteristics of soils, and to leave to others to find specific utilities based upon his findings. By all good precedent this procedure is justified and correct.

IN working out a program leading to specific utilitarian results based upon the soil survey of the state, the department of agronomy cooperates with the U. S. Department of Agriculture in the identification and mapping of soils in the state. The results of such work are published as Soil Survey reports by the Federal Government. The only contribution the state offers in this work is a share in the expense of the field work. The expense of putting out a Soil Survey report is met entirely by the U. S. Department of Agriculture. Since the state does not contribute

towards the expense of publishing the soil survey report, no copies are available for distribution, other than those offered gratuitously by the United States senators and representatives in Congress from the district in which the area surveyed is located. Owing to the technical character of

studies by professionally trained men in soils and crops tends to eliminate many inconsistencies in the adaptation of crops to soil types which have previously never been understood. Also such studies by crop specialists reinforced by laboratory and field investigations conducted on the vari-

ous soil types has permitted a more practical significance to be attached to experimental and investigational work. As an illustration of the practical value of crop surveys supplementary to soil surveys, an instance is related in connection with the soil and crop survey of Wayne county, which has just been completed, and will be published soon. The soil survey showed that there were certain soils in the county that



A Typical Farming Area in Southern New York

the soil survey reports published by the Federal Government, it is within the province of the state to provide "follow up reports" based upon the soil survey, which will be of positive value in solving some of the soil and crop problems on the farm. These bulletins will be designated as *Soil and Crop Management* studies for the respective counties.

IN order to obtain specific data relative to the adaptation of crops to certain soil types, crop yields, acreages, and fertilizer practice, etc., to serve as a basis for recommendations in the *Soil and Crop Management* bulletins, crop specialists visit typical soil areas previously classified by the soil survey, and by personal interviews and observation establish correlations between the soil types and their crop characteristics. Such

contained sufficient calcareous material in the soil profile to produce effervescence freely upon addition of dilute hydrochloric acid. Another group of soils having rather similar general characteristics did not show any lime in the soil profile when tested, and naturally the conclusion was drawn that the latter soil was in need of lime. In fact, such conclusions in regard to this particular soil have been quite universally accepted. As a result of a crop survey conducted on these respective soils, the crop specialists found that the soil devoid of lime as indicated by field tests, was capable, under judicious management, of raising fair to good crops of clover without liming. The practical value of this information is at once apparent. Other similar cases may be cited where crop studies on particular soil types have brought about an explana-



ation for practicing certain methods of crop selection and fertilization entirely out of harmony with the theoretical.

There are many by-products of soil survey work that can be utilized for drawing conclusions not necessarily concerned with purely scientific matters. The first and most obvious use of soil survey reports is by the farmer who is on the land, producing crops from the soils of his own farm. The use of Federal soil survey reports by farmers is not as general nor the results as satisfactory as one might wish. This is due to two major reasons—first, the farmer does not interpret a soil survey map with facility; and second, the detail of the mapping does not permit of the separation of as many variations in soil conditions which he knows exists on his farm. The first of these difficulties can only be remedied by a statewide educational movement regarding soil conditions, the dissemination of information concerning soil survey classification, and follow-up studies based on soil survey classification which will have practical application and arouse the farmers' interest. The second will always be before us, but with a better conception of soil classification and soil differences the farmer can more readily understand the limitations of soil maps and the import of those minor variations on his own farm.

THE soil surveys are of very great value to the prospective purchaser of land, the newcomer to our state who is not familiar with the soils of the region and who often needs unbiased and honest information regarding the character of farm lands offered him. This source of informa-

tion is made use of considerably by the more up-to-date, progressive class of farmers seeking farm land. Also the city dweller who has a desire to buy a country place avails himself of this information very generally. The wider use of the soil survey by prospective purchasers of farm land should be encouraged. Many unfortunate experiences in the selection of land unsuitable for satisfactory crop production could be eliminated if the newcomer to our state would avail himself of this service.

An illustration of the value of soil surveys in this connection came to my attention recently. A farmer residing in Iowa wrote to the College requesting a soil map of Madison County. He said he was considering the purchase of a certain piece of land located in this county. The supply of Madison County reports was exhausted, so we were unable to send him a map, but requested him to give us definite information relative to the location of the land in question, and we would refer to our soil map and give him the information he desired. He answered giving the location of the land. Upon referring to the soil map, one could see that two types of soil were found on this farm, one called Volusia silt loam and the other classified according to our present nomenclature as Honeoye silt loam. Every student of soils knows the wide difference in the value of these two soils. It only remained for the farmer to decide for himself after receiving a description of these two soils whether or not he could afford to purchase this farm, after considering the relative acreage of the soils which differ so widely in crop adaptation and agricultural value.

The wide range in adaptability and value of the land in New York state tends to emphasize the necessity for having accurate data relative to the character of the soils. A complete inventory of the soil resources of the state is the ultimate aim embodied in the soil survey. Such data are fundamental to the formulation of any practical plan leading to the more efficient utilization of the land in the state.

THE accompanying cut is a winter view of a typical farming area in the southern part of New York state. The soils on the high hill land belong mainly to the Volusia, Canfield, and Lordstown series. These soils are derived from the weathering and alteration of glacial material composed mostly of shale rock, which abound in the plateau region of southern New York. The soils are low in lime, and mostly shallow in depth. The Volusia and Canfield have compact subsoils and therefore have a tendency to be poorly drained. The Lordstown exhibits better drainage characteristics than the Volusia or Canfield soils.

The valley soils represent altered glacial material which was transported long distances from the north by ice and water. In many cases a portion of the transported material was limestone. Owing to the influence of the glacial water which was most responsible for the deposition of the original soil material, the valley soils are complex in character varying in texture from clays to coarse gravels. The Dunkirk, Groton, and Palmyra are the prominent valley soils carrying lime. Where no lime is found, the valley soils are usually correlated with the Chenango, and Wooster series.



# Alfalfa Rapidly Becoming Important New York Crop

By L. A. Dalton

**P**ROBABLY no crop has ever been grown by New York farmers that received the widespread interest that alfalfa is receiving at the present time. The acreage of alfalfa has increased remarkably during the last twenty-five years. The following figures show this rapid growth:

Year	Acres
1900 .....	5,000
1910 .....	35,000
1920 .....	120,000
1925 .....	208,000

There are several reasons for this rapid expansion in the acreage of alfalfa. (1) The high cost of protein concentrated feeds for milk production. (2) The relatively high labor income from growing alfalfa as a cash crop. (3) The soil improvement qualities. (4) Improved methods of production enable many to grow alfalfa, who had failed before.

Every dairyman knows what the percentage of protein means when obtained in mixed feed. At the same time there are hundreds of dairymen who little appreciate what alfalfa will do toward eliminating some of their purchased protein or increasing the production of milk. Alfalfa will produce on an average about 575 pounds of crude protein to the acre or nearly 8 times as much as timothy. In addition to being high in protein, alfalfa is also very high in calcium and some of the vitamins. The calcium, which is very essential in bone development, found in alfalfa is in a form that is readily assimilated. The vitamins are thought to be especially valuable in facilitating assimilation of certain food nutrients. Specifically, as a feed

1. Alfalfa reduces the amount of protein necessary to purchase in the grain.
2. Alfalfa is highly palatable.
3. It furnishes calcium in the

best form for growth and production.

4. It is rich in vitamins that control growth and general health.
5. It furnishes elements essential to regularity of breeding.
6. It insures growth, production, and reproduction the essential life cycle in profitable animal husbandry.

It may, therefore, rightly be termed not only a prime essential in good farming, but the cornerstone in profitable feeding.



Proper Attention to the Factors of Drainage, Liming, Fertilizers, Inoculation, and Hardy Seed Varieties Will Insure a Stand of Alfalfa As That Pictured Above

The following figures show the comparative composition of alfalfa and other common roughages in digestible crude protein:

Roughage	Crude Protein
Alfalfa .....	10.6%
Red Clover .....	7.6%
Timothy .....	3.0%
Corn Stover .....	2.2%

**C**OST accounts kept by farmers over a period of 8 years (1914-1922) show that alfalfa produced a labor income of 89 cents per hour. This was greater than the labor income per hour for wheat, which gave a labor income of 33 cents per hour, buckwheat 5 cents, beans 20 cents, cabbage 49 cents, and potatoes 49 cents. Owing to the fact that alfalfa is so desirable for the dairy cow, and to the fact that dairying is the principal agricultural industry of New

York and New England states, it would seem that there would be a good demand for alfalfa hay for a long time to come. When productiveness and ability to gather nitrogen from the air are considered, alfalfa is unsurpassed as a crop to grow for the purpose of solving the nitrogen problem. The atmosphere is approximately 80 per cent nitrogen. If the alfalfa is inoculated, and it must be for economical production, it will draw on the large supply of free nitrogen and make a large amount of

it available for succeeding crops when the alfalfa is fed on the farm and the resultant manure returned to the land. Even though the alfalfa is sold from the farm it is a well-known fact that an alfalfa sod will greatly increase the yield of the crop that follows. In Seneca County in 1924 John Yerkes of Romulus had a field of wheat, a part of which followed a three-year alfalfa sod, and the remainder followed a three-year timothy sod. The wheat after alfalfa

produced 34 bushels to the acre and the wheat after timothy produced 22 bushels to the acre, an increase of 12 bushels to the acre. At Ithaca alfalfa land produced 51 bushels of wheat to the acre, and timothy land produced 36 bushels to the acre, an increase of 15 bushels of wheat to the acre. These results are very significant considering the high price of wheat and the fact that it cost but very little more to get it.

Every farmer knows that nitrogen is the most expensive element when purchased in a mixed fertilizer. A ton of mixed fertilizer having a formula of 2 percent of ammonia will contain only about 33 pounds of nitrogen, while a ton of alfalfa contains about 47 pounds of nitrogen. In other words, a 3-ton crop of alfalfa will contain as much nitrogen as 4½ tons of 2-8-10 mixed fertilizer.

**H**UNDREDS of farmers in New York are successfully growing alfalfa today who had though it impossible to grow in the past. This has been due to improved methods of production. The most essential factors for success with alfalfa are as follows: (1) drainage, (2) lime, (3) acid phosphate, (4) inoculation, and (5) hardy seed. Of course, there are other things such as: proper time of seeding, good seed bed, and the like, that might be included, which will enhance the chances for success, but they are less important than those first mentioned. Drainage is probably the most important and is the one factor which the farmer cannot often economically control. A deep, well-drained soil is of prime importance and is a prerequisite that should be observed to the letter. All the other factors can be controlled and

with the work properly done alfalfa production is a rather simple matter. If the soil is not naturally well supplied with lime, liming material must be applied. A successful catch of alfalfa will pay for a very liberal application and yet return a good labor income. Acid phosphate is essential for practically all crops and an application of 400—500 pounds to the acre for alfalfa is just the fertilizer needed and the only fertilizer required. Some soils are naturally inoculated for alfalfa, but most soils are not. Alfalfa will turn pale and die on soils not well supplied with nitrogen if inoculation is not done.

**V**ERY frequently failure with alfalfa can be directly laid to seed which is not adapted to New York state's climatic conditions. Our winters are usually quite severe and seed

produced in warm climates is not adapted here. It usually comes up well, but after the first or second winter most of the plants have died out. Hardy seed is very essential and successful crops of alfalfa should be more completely insured by using it. If these five points are strictly observed and proper measures taken to meet them, it will be found that alfalfa is easy to grow.

It hardly seems possible to overdo the production of alfalfa in New York. One thing is sure, as yet we are far from the saturation point. In view of the large acreage of land that will successfully grow alfalfa, and the large outlet, through the dairy cow, for all that might be produced, it would not seem at all unreasonable to say that New York should produce at least 300,000 and possibly 500,000 acres of alfalfa.

## Two Zoologists in the Southwest

By A. H. Wright

**W**E WENT to Texas by train. We loitered along the way. The best of the anticipation before arrival was the help everyone gave us. In Washington friends entertained us, we browsed in the Library of Congress for books on Texan botany, zoology, and geology, sought pertinent books at second hand book stores, worked at the U. S. National Museum on plants, frogs, and reptiles, received letters of introduction to botanists and entomologists in the southwest, and in general completed our preparation and equipment for the seven months in store for us.

We stopped at New Orleans to see the moving spirit of the Southern Biological Supply Company, Mr. Percy Viosca, Jr., who to my mind has more first-hand field experience on animals in the south than almost any man of my acquaintance. Our stay was too short, but sometime we will visit Louisiana again.

We went to have a rest, a change, to add to our collection of photographs from life of all the frogs, lizards, snakes, and turtles of the U. S. A. That meant we must find, catch and keep them alive. What fun to devise ways and means of capturing them and what interesting pets to share home with us, whether it be tent, auto, hotel, private residence or ranch house!

We have for twenty years been trying to learn the life stories of the 60 or 65 kinds of frogs in the U. S. A. Texas had many species we did not know thoroughly, and we hoped to camp at Helotes near San Antonio, Texas. This little hamlet is the type locality of several animals in which we were interested. By introduction and good fortune we fell into the kind hands of Misses E. D. Schulz and Emma Gutzeit, who secured for us a ranch house on Mr. and Mrs. Chas. Gutzeit's ranch on Helotes Creek. The personal attention and interest Mr. and Mrs. T. B. Rayburn gave our photographic problems we will always appreciate, and the fine times and volunteer help the three naturalists—Roy D. Quillan and Albert J. Kirn of San Antonio and Mr. R. D. Camp of Brownsville, Texas—gave us, we will always gratefully remember. Our expedition was in part supported by a grant from the Heckscher Foundation for the Advancement of Research founded by August Heckscher at Cornell University.

**F**ROM these headquarters we took trips long and short over south and central Texas, particularly to points where the San Antonio Weather Bureau recorded rain. Waiting for spring was waiting for rain. Very little came before July 1. No crops for the farmers, no forage for the

cattlemen, few frogs and flowers for us. We had to roam far and wide, but it was delightful. For some of the fun of our trip we cull a few unvarnished and hasty notes from our diaries.

We fished: March 17, 1925.—It took us two hours to go. Forty-five minutes at the Guadalupe River! Fishing in the rapids. Excitement over sunfishes and three different kinds of darters, log-perch, the largest one. The rush home in one hour five minutes. Twenty-five miles, ten miles over rough road to photograph them alive, twenty minutes to take the pictures before friends came for a camp party. Fish die within ten minutes after pictures are taken. Made us think of the story "Turtle Eggs for Agassiz!" How true that is of all scientific collecting of forms that change or perish soon! One is all keyed up with hopes to catch—the hopes rising with forms appearing, are dashed with forms lost. Then come the questions: "How can they be kept best, or how can they be photographed best to show their fine points and beauties that fade so soon?" A regular art gallery must be set up, and this in temporary form has so many shortcomings. The board is not steady or not level or not shaded to the proper degree.

We found frogs: March 23-30.—Trip to Beeville. A trip to San An-



tonio, March 23, told us that the Corpus Christi section had rain, so we hurried back to camp and started out at 6 o'clock to go as far as we could that night. After 19 miles of good roads came dirt road and it was bad just after the rain. The ruts were deep and that night they seemed to go criss-cross along the road, so bounce-bump we went on our way, our tin can on the side rattling, our load in the car shifting from place to place. But we kept on till 1 o'clock when we pulled into a public camp at Karnes City. Three miles beyond the next morning we struck good road which was so welcome, as those 45 miles of rough dirt were still fresh in our minds and in our backs. We collected lots of plants and when we reached Beeville it looked like good frog country, so we stopped. That night proved our expectations true and before we left we had the life story of one frog and parts of the stories of four more.

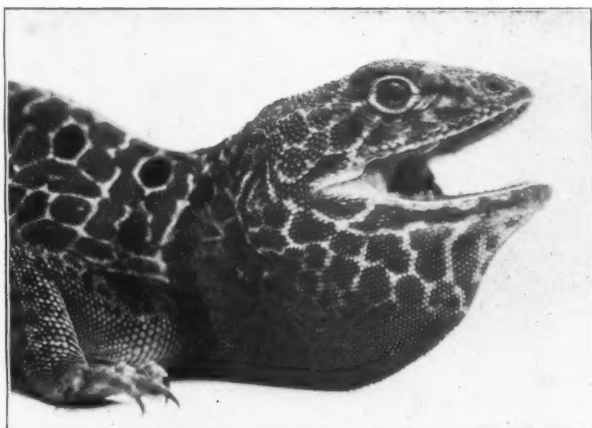
April 12—The night of April 12 came a shower, not a hard rain, it is true, but a shower lasting a half hour perhaps. At this our hopes of "spring" and frogs bounded up. Our nightly listenings at each pool and our auto trips of forty or fifty miles or more until midnight were renewed. Once more April 13 we heard a robber frog "barking" and this morning B—— has gone to the hill to gather the last bulletin on this very interesting frog.

MAY 28—Comfort had a two to three-inch rain in the afternoon, but we heard about it May 29 in the afternoon. We hurried out there—we got Couch's spadefoot, croaking and breeding. What I want to write here is of the terrific speed with which Couch's spadefoot develops. It is well they do, too, as they lay in temporary roadside pools and pools in low places in fields. The eggs laid—it must be the night of May 28—had not only hatched, but the tadpoles were almost grown to maturity by June 3. The ponds will be dried up in a week unless rain comes again. All the spadefoots of this corner of the country must have bred in these two pools, which are a seething mass of tadpoles.

June 4—Have had two showers at Helotes, and worked the results to

their utmost. Got Canyon or spotted toad *Bufo punctatus* eggs in Helotes Creek in gorge about camp and again at Manock's crossing. Got spadefoot toads, *Bufo compactilis* at Leon Creek and photographed their tadpoles, and right at Gutzeit ranch took nebulous toads, *Bufo valliceps*, croaking and breeding, and have now finished this series. Took flashlights of croaking toads until 1 o'clock at night.

WE chased lizards: June 14—Roma, Texas. Drove beyond Roma, hoping for sight of the meticulous boomer. At last we saw one run into a clump beside the road. I watched by the roadside while B——



A Reticulated Boomer, the Sixth in All Collections of the World

went beyond with the gun. He lost one firing pin and while looking for another, the lizard ran to another clump. In this clump B—— had a good chance to shoot him. But, alas, the second pin slipped! Then the lizard ran into the hole. B—— cut down a lot of the bush with a saw and botany pick, and this scared out the lizard. As he ran, we ran as fast as we could. B—— saw him run down a hole, we put strainer over one hole and cloth in end of other hole. After cutting down the bush, B—— dug out the hole. We had about despaired and thought our beast had slipped out when he slipped out of the loose dirt from under the botany pick and went back to the first clump, then ran east, and back again to the clump where we had cut, but not pulled out the brush. While the lizard was under the sheltering branch B—— got a bag and stuck it in the hole. The lizard went to the hole, tried to run in and sat there and panted. He was as tired as we were. He tried two or three times to go around the cloth, apparently puzzled by it. The bush

was thorny and we couldn't grab him. He ran into the other entrance of the hole. We covered this hole with a strainer and then pulled away the cut brush, then covered the big hole with the fish net and I tried to guard this and grab him when he came out. B—— poked in the smaller entrance. Out came the lizard, but I didn't see him until the net moved near the edge. As I grabbed in that place he slipped under the saw that was holding down the edge, and away he dashed. We dashed, too, and saw him go into another hole. How our hearts sank. Another bush cut and the net over the hole and the poking sent the lizard out and as he reached the edge of the

seine we both grabbed and had him. This was the sixth reticulated boomer in all collections of the world, and one which brought us a thousand miles to catch. It was a long, hard, hot noon-day job, but worth it. When we came back to Ringgold Barracks the oil men at the hotel said we don't need to ask, "Have you caught him?" A resident commented, "You don't mean to say you came a thousand miles to catch that."

We caught snakes: April 5—Gorge near Helotes Post Office. Tore down the bluff to get a Graham's Snake, but we got him. First saw him in the brush. Then under a large flat stone. We cleared away brush and leaves around it, had "decks" ready for action, but before we could lift the stone away he slipped under a ledge and then up into a crevice. We had to have him, that "striped snake," so away we tugged at overlying plant growth, dirt and rocks, and finally could jar the big rock he was behind. Then one poked up from below and the other from the top. The dirt moved a little and there was his head. We caught him, and must take his portrait.

MARCH 16—Went up Helotes creek turning logs and stones with my botany pick. Something black disappeared under a flat stone. It was a large stone, but I turned it over. The snake was a racer, a beauty. Ever after when we went by that stone we wondered how one pair of hands ever raised it and at the

(Continued on page 221)

# The Development of Milk Fat Tests

By H. C. Troy

WHEN cities in this country became so large that consumers could no longer obtain their milk supply directly from milk producers, the need for a method for determining the composition of milk and detecting adulterations became apparent. But the demand for such a method did not become insistent until the factory system for the manufacture of butter and cheese was introduced. This system developed in this country during the years between 1850 and 1870. Previous to that time, all butter and cheese were made at the homes of the milk producers.

When the milk from several farms was pooled at a central plant and made into butter or cheese it was soon learned that the amount of these products that could be made from equal volumes of milk from different herds frequently varied widely. This fact taught both the producer and the manufacturer that there was a real need for a rapid, simple method for determining the composition of milk and especially the fat content.

At that time the science of chemistry had developed to a point where a number of trained workers in the universities and agricultural colleges were investigating chemical problems relating to foods and agriculture. In 1885 Adams, an English chemist, published a method for determining the percentage of fat in milk. He weighed a small amount of the milk, dried it on filter paper and extracted the fat from the dry substance with ethyl ether. The ether was evaporated, the dry fat weighed, and the percentage in the milk calculated.

In 1888 Rose published a wet extraction method. He added ammonia and alcohol to a known weight of the milk, then extracted the fat with ethyl and petroleum ethers. The ethers were then evaporated and the dried fat was weighed and the percentage calculated as in the Adam's method.

These methods, or modifications of them, are the most accurate that we have at present for determining the percentage of fat in milk and other dairy products. They serve well for investigational work and in food control laboratories where the number of samples to be analyzed is not

large, where skillful chemists are available, and where results do not have to be obtained in a short time. But their general application to the needs of the industry in the production and manufacturing fields involved too great an expense. Therefore the demand continued for a simple, rapid test that could be made by an operator who was not a trained chemist.

European tests: Several rapid methods were developed by chemists in Europe. The earliest, known as Marchand's lactobutyrometer, was invented in 1877. A measured quan-

Dr. S. M. Babcock of the Wisconsin Agricultural Experiment Station, published in 1890 the test for determining the per cent of fat in milk. The test now bears his name and has become the standard test the country over. The inventor's contribution to the dairy industry is far greater than any honor it can bestow upon him for the test was given free to the public and fulfilled an urgent demand for such a test.

tity of milk was placed in a long glass tube graduated at the upper end. Acetic acid was added, then ether to dissolve the fat. After heating gently the fat collected in the graduated part of the tube and its volume was read by means of the graduations. The method was displaced later by more accurate ones, but special interest is attached to it because the principles of adding an acid to destroy the solids not fat and of reading the volume of fat in a graduated glass tube was employed and now is used in the successful simple, rapid tests.

IN 1886, de Laval, a Swedish inventor, brought out a test called the de Laval lactocrite. He dissolved the casein in a definite volume of milk by mixing it with acetic acid, containing five per cent sulphuric acid. An aliquot of this mixture was placed in a graduated capillary tube and centrifuged at high speed to separate the fat from the remainder of the liquid. The amount of fat was then read on the graduations. This method is of

special interest because it appears to be the first test that employed centrifugal force to collect the fat and used sulphuric acid to assist in dissolving the solids not fat. All successful tests brought out later were improvements upon the principles employed in Marchand's lactobutyrometer test and the de Laval lactocrite test.

FJORD in Denmark developed a method in which glass tubes containing a measured volume of milk were centrifuged for 45 minutes. The compact layer of cream was then measured and the fat estimated by means of a chart devised by the inventor. This test continued to be used in Denmark until very recently.

In 1889 Lindstrom put out an efficient centrifugal method for estimating the fat. It consisted of special graduated tubes for holding the milk and dissolving fluid and for reading the collected fat. Pipettes for measuring the milk and a high speed centrifuge were also provided. At first the same mixture of acids was used to dissolve the solids not fat as were used in the de Laval lactocrite test. Later sulphuric acid alone was used. The main difference between this method and other centrifugal methods is that the fat is allowed to cool before the volume in the graduated tube is read. This test is generally used at present in Sweden, Norway and Finland. It compares favorably with the best methods now in use, but the high speed of the centrifuge disk, 5,600 revolutions per minute, requires a more expensive centrifuge.

In 1892 Gerber, in Switzerland, developed a successful test which is the only one used in the greater part of Europe and in continental countries. Tests of milk can be completed by this method in less than seven minutes which makes it at least twice as quick as any other method yet developed. Its speed and accuracy makes the test deservedly popular and its use in North America has been increasing rapidly recently.

In making the Gerber fat test, ten cubic centimeters of sulphuric acid, eleven cubic centimeters of milk, and one cubic centimeter of amyl alcohol are placed in a special test bottle and well mixed. The bottle is centrifuged for four minutes and the percentage of fat is read by means of graduations on the neck of the bottle.



A few other tests varying more or less in detail from those described above were developed in Europe. They were not practical enough to come into general use and space does not permit a description of them here.

**TESTS** developed in the United States: Although the demand for a rapid milk fat test had existed for several years and was constantly growing, no satisfactory test was devised in the United States prior to 1888. The Federal Land Grant Act of that year enabled the different states to increase their staff of workers and one of the first problems attacked by the chemists was the development of a rapid method for determining the percentage of fat in milk. A number of tests were brought out between 1888 and 1891.

In July, 1888, F. G. Short of the Wisconsin Agricultural Experiment Station published a method in which a measured quantity of milk was treated with an alkali in a test bottle having a narrow graduated neck. An acid was then added and the mixture held at the boiling temperature for several hours. The percentage of free fat was then read on the graduated neck of the bottle.

Professors Failyer and Willard of the Kansas Agricultural Experiment Station also brought out a test in 1888. A measured quantity of milk in a graduated tube was treated with hydrochloric acid to destroy the solids not fat. Gasoline was added to dissolve the fat and collect it in the graduated tube. The gasoline was then evaporated and the percentage of fat read by means of the graduations on the tube.

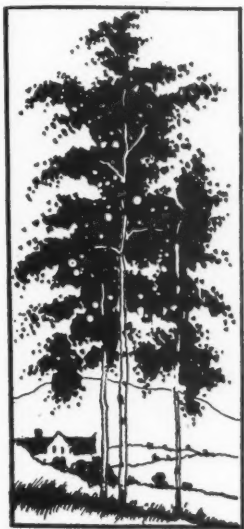
Professor C. L. Parsons of the New Hampshire Agricultural Experiment Station also developed a test in 1888. Alcohol and an alkali were used to destroy the solids not fat. The fat was extracted with gasoline and a measured quantity of the solution was evaporated. The dried fat was measured in a scale and the percentage calculated.

In February, 1890, Professor George E. Patrick of the Iowa Agricultural Experiment Station published a test. A measured quantity of milk was placed in a flask having a slender graduated neck. A mixture of acetic, sulphuric and hydrochloric acids was added to destroy the solids not fat. The flask with its contents were heated to the boiling point for ten or fifteen minutes. The percentage of fat was then read in the graduated part of the neck.

C. B. Cochran of the Pennsylvania

State Board of Health developed a test in which the milk solids not fat were decomposed with acetic and sulphuric acids and heat. The liberated fat was dissolved and collected by adding ether. The ether was evaporated and the fat transferred to a flask having a graduated neck in which the volume of fat was measured.

In 1889, H. Leffmann and W. Bearn devised a test in which 15 cc. of milk were placed in a test bottle, 3 cc. of a mixture of amyl alcohol and hydrochloric acid were added and mixed with the milk. The bottle was filled to the base of the neck with sulphuric acid and shaken vigorously. Finally a mixture of sulphuric acid and water was added until the bottle neck was nearly full. The bottle was centrifuged for less than two min-



utes when the percentage of fat could be read on the graduated neck. The Gerber test developed three years later in Switzerland was very similar to the Leffmann and Bearn's test.

The Babcock test: Dr. S. M. Babcock of the Wisconsin Agricultural Experiment Station published in bulletin No. 24, July, 1890, the test that bears his name. It was so simple, rapid and accurate that it soon displaced all other tests developed in the United States. It is based on the fact that strong sulphuric acid will dissolve milk solids not fat and leave the fat free. Centrifugal force and water are used to collect and wash the free fat.

In making a test 17.5 cc. of the milk are placed in a small bottle that has a long slender graduated neck. Then 17.5 cc. of sulphuric acid (specific gravity 1.82) are added and mixed with the milk. The bottle is

centrifuged for five minutes, hot water is added to wash the fat and the bottle again centrifuged for two minutes. Hot water is again added until the bottle is filled nearly to the upper graduations on the neck, whirled in the centrifuge for one minute, and the fat percentage is then read on the graduations. The test is so simple that it can be made by a person having little special training.

From this review it is seen that the development of a practical milk fat test covered a period of twelve or fifteen years and that a number of investigators contributed useful facts. Marchand, in 1877, was the first to use a graduated glass tube to measure the fat after treating the milk with acetic acid. Next de Laval, in 1886, first used centrifugal force in a graduated glass tube after treating the milk with acetic and sulphuric acids. Babcock in 1890 discovered that sulphuric acid alone, when used at the proper concentration and temperature, would free the fat. He then worked out the details of the method, applying centrifugal force to collect the fat as formerly used by de Laval, and a graduated glass tube to measure the fat as earlier applied by Marchand. The test was developed by Dr. Babcock from facts discovered during extensive experiments carried out by a keen, scientifically trained mind, intensely and industriously applied to the solution of the problem. The inventor's contribution to the dairy industry is far greater than any honor it can bestow upon him for the test was given free to the public when a fortune could have been made by marketing it privately.

The most recent improvement in milk fat tests was developed in 1917 by J. J. Majonnier of Chicago, Ill. He modified the Rose-Gottlieb method so that milk fat and solids tests can be completed with chemical accuracy in about thirty minutes. It is used extensively and to great economical advantage in plants manufacturing large amounts of dairy products where accurate standardization of the product is essential. This test is not adapted to the needs of the milk producer.

The development of tests for milk constituents and the percents of such has been a great saving of time and energy for both the producer and the dealer, besides eliminating the formerly frequently bitter disputes between the two. Perhaps the greatest benefit has been derived by the unknowing consumer who has had the quality and condition of his dairy foods raised to a considerable degree.



## Through Our Wide Windows



### The Cornell Countryman

Founded 1903

Incorporated 1914

One of the Agricultural College Magazines, Associated. Finances are controlled by an incorporated board of professional and business men of which J. B. Taylor is president. Published monthly from October to June. The subscription rate is a dollar a year; single copies fifteen cents; advertising rates on application.

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Ithaca, New York

April, 1926

WHEN we want a bridge built, do we hire a philosopher? When we are sick, do we seek a lawyer's counsel? When we want to run the agriculture of our state, do we get men from every walk of life but farming? Certainly not. Neither do we get these men to direct our agricultural education. Yet that is exactly what will happen to our New York agricultural administration and education; our State Colleges of Agriculture, Veterinary Medicine, Home Economics, Forestry, the extension activities of these institutions, and even the local farm bureaus, if the recommendations of the legislative committee to consolidate the state departments is carried out. Under these recommendations the agricultural education will be under the supervision of the State Board of Regents which is composed of men from every profession but farming.

When we are sick we'll get a doctor. When we want a bushel of potatoes we'll get the farmer to raise them. When we want to teach farm boys how to grow better crops and better livestock and cleaner milk we'll get some one with a farm

background—someone who knows how to plow the land and harvest the crops, breed better stock and produce clean milk under practical conditions. We want agricultural education as well as administration directed by those who understand it.

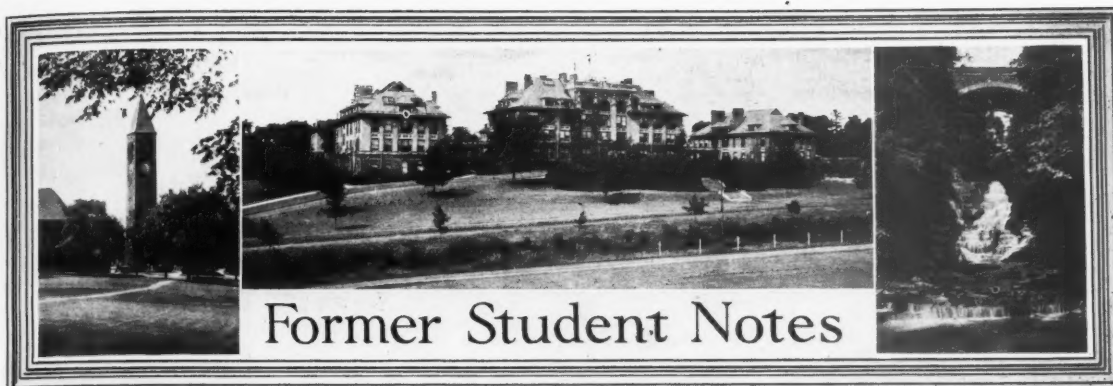
SOMEONE recently remarked that the student is under a severe handicap who comes to college out of a pair of overalls and with imaginary hayseed still tickling his back. We for one are inclined to doubt it. Perhaps our ag spirit has been lost during the last few years in the mad rush to overcome this handicap. At any rate our college enthusiasm was taking its last gasps when someone noticing how the thing was suffering decided to kill or cure it. The ag banquet was a success so far as spirit revival was concerned but the financial costs were even greater than the charge for the feed. The ag's April fool hop will, we hope, make the thing self-sustaining again. To have activities constantly supported by artificial enthusiasm is worse than a total lack of the spirit.

Aggies, it is up to you. Do you want a downright good time in an unsophisticated atmosphere? The Hicks' Hop will provide the makin's. If you don't want ag spirit don't come. Continue on with your humdrum life of prelims and reports. We'll take time to bury forever the half century old ag spirit, regretting we had helped to prolong its suffering this long.

DURING our early frosh months we often saw a heavy prancing team of bays pass by hitched to what appeared to be a prosperous farmer's wagon. One day we summoned courage enough to "hook" a ride on this wagon, called THE CORNELL COUNTRYMAN. After a great deal of puffing and panting, we managed to climb aboard.

Curiosity prompted us to crawl forward to the driver's seat. Lo, and behold! The driver was none other than the editor. He spoke. We spoke. Soon we were acquainted. We watched him make the up and down grades with the least effort for the team. After considerable practice, the editor deemed us capable of taking complete control of the paper. This is our first attempt.

We feel the tension of responsibility, and brace our feet against the dash lest we lose control, while resolving to do our best in keeping the paper in the center of the road of usefulness, service, and prosperity.



## Former Student Notes

'94

W. G. Comstock, former short course student, is farming at Clinton, N. Y.

'01

George H. West is farming at Wellsboro, New York.

'07

Spencer C. Walker is helping to supply Auburn, N. Y., with milk and also running a general farm. His address is Box 303, Auburn, N. Y.

'08

Orren F. Ross is taking care of 70 head of purebred Holsteins at Rossdale Farm, the family homestead, at Lowville, N. Y.

'09

Ernest L. Baker is getting his doctor's degree at Columbia this year and has been giving various psychological tests to New York school children. His address is Teachers' College, Columbia University.

'12

Harry Embleton is now head of the poultry department of the University of Arizona, located at Tucson.

Raymond G. Fish, winter course student, is farming at Hempstead, Long Island.

Maynard L. Smith is now farming near Elmira. Mail will reach him at Elmira, N. Y., R. F. D. No. 1.

O. W. Smith, who has been absent from his place in the Secretary's office for over a month, due to a lingering illness has recovered sufficiently and is once more back at his desk in Roberts. His absence was especially felt during registration week when it became necessary to enlist the services of Professor King of the Farm Practice Department to assist in the filing of the many registrations. His address is 304 College Avenue, Ithaca.

Dr. Raymond A. Pearson '94, who has been president of the Iowa State College of Agriculture since 1912, has recently become the president of the University of Maryland. Dr. Pearson took his dairy work at Cornell under Professor Wing who was then head of what are now known as the poultry, an hus, and dairy departments. At this time the dairy building at the north end of Goldwin Smith had not been erected, and dairy work was carried on in a building where Bailey Hall now stands.

After graduation Dr. Pearson became assistant chief of the Dairy Division of the U. S. Department of Agriculture. During 1902 and 1903 he was manager of the Walker-Gordon Laboratory Co. in New York and Philadelphia. When the department of dairy industry was formed at Cornell it was logical that Dean Bailey should choose Dr. Pearson as its first head.

In 1908, owing to his very enthusiastic and successful administration, and his state-wide acquaintance and interest in dairying, he was chosen by Governor Hughes as Commissioner of Agriculture for N. Y. State. Due to his efficient work at Albany he was selected as president of Iowa Agriculture College in 1912.

While president of Iowa, Dr. Pearson was drawn into government service. He was assistant secretary of the U. S. Department of Agriculture during 1917-18, and was a member of the government food products commission to visit the Allies during the fall of 1918.

'13

Glenn L. Wallace is teaching agriculture in the high school at Avon, New York.

L. D. (Shorty) Greene, Agricultural Agent, is now employed as milk agent for the New York, Ontario and Western Railway Company. He recently expressed himself as being well satisfied with his new position. His address is 8 King Street, Middletown, N. Y.

'14

E. G. "Ted" Bishop was recently named City Clerk and Tax Assessor in Coral Gables, Florida. Ted was formerly manager of the bond and mortgage department of the Coral Gables Corporation. Mail should be sent to him at the City Hall of Coral Gables, Fla.

Mr. and Mrs. R. H. Cross announce the arrival of R. H. Cross, Jr., on January 17 at Crouse Irving Hospital in Syracuse, N. Y. Cross is running a 250-acre farm at Fayetteville, N. Y., where he has 40 head of accredited Holstein cattle, all of which he raised on the farm. He is growing large quantities of alfalfa.

Arnold E. Davis is farming at Livonia, N. Y., and specializes in pure bred Holsteins. His special crops are cabbage, potatoes, and wheat.

Harold Denmark is farming at Van Etten, New York.

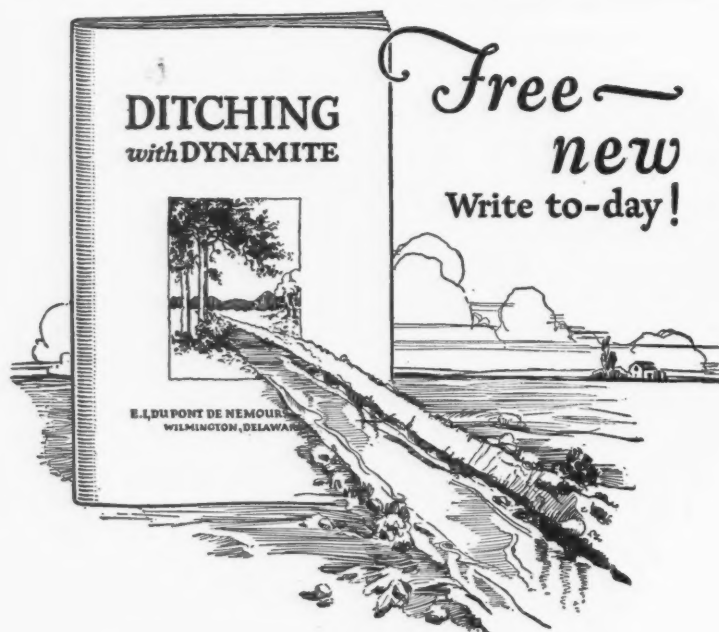
'15

Lamotte P. Breese is a dairy farmer and milk dealer on R. F. D. No. 2, Elmira, New York. He is also president of the Chemung Valley Holstein Breeders' Association.

Floyd Degolyer is a lumberman on Route 3, near Gloversville, New York.

We wish to extend our sympathy to Harry S. Gabriel and wife, Ellen Wigsten, in the loss of their eight and one-half months' old daughter on March 10 due to erysipelas. Mr.





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"Ditching with Dynamite" illustrates and describes successes obtained by ditch-blasters in many parts of the country; gives complete data on the kind and quantity of explosives required for various types of ditches. When a drainage problem arises for solution, you will find its solution, in many cases, in the adoption of dynamite. Know what can be done with dynamite to improve drainage conditions.

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Gabriel is teaching vocational agriculture in the high school at Horseheads, N. Y.

Thomas D. Hall is vice-principal of the school and experiment station at Glen, South Africa. The School of Agriculture serves the entire Orange Free State and is only fifteen miles from the capital, Bloemfontein. Formerly, Hall and his wife (Helen Bennett) were at Potchefstroom, where

he was the chemist of the agricultural school and experiment station, chairman of the Northwestern Branch of the Public Servants Association, and president of the Technical Officers' Association.

Among the visitors during Farmers' Week were Tommy Thompson '24 and Frank Fielding '15. "Tommy" is still in the nursery business at Great Barrington, Mass. Frank was

recently promoted to the general managership of the Earp Thomas Culture Corporation of New York. His address is 2954 Marion Ave., New York.

Carlton King is now living at 304 Glen Street, Glens Falls, New York.

'16

Roy Bird spent a couple of months in Ithaca during the winter. On February 1st he started on his new position as one of the foresters for the International Paper Company. While he was not sure of the exact character of the immediate work, he will in all probability start the inventory of the New York State property of that company. The location of his future residence has not been definitely decided, though it will be in one of the Adirondack towns, probably Tupper Lake. Another item of interest in this connection is that on December 23 a daughter, Margaret, was born.

Waldo B. ("Cookie") Cookingham is now teaching agriculture in Phelps High School and in addition is running a poultry farm.

George Hale Harrison was recently married to Clara Adella Frame of Dover, Delaware. George is actively engaged with his father in handling one of the largest nurseries in the East located near Berlin, Maryland. The new couple are now living at Berlin.

Though the present address of Lewis R. Hart is 126 Linden Avenue, Ithaca, New York, he spends most of the year at Salt Lake City, Utah. "Lew" is the sales manager of the Federated Fruit and Vegetable Growers of America, selling fruits and vegetables from cooperative marketing associations in the mountain states. In the spring and summer he sells peaches and strawberries in the southeastern states.

Revere J. Moore recently announced his engagement to Miss Margaret A. Cruikshank, daughter of Mr. and Mrs. F. R. Cruikshank of Scarsdale, New York. They expect to be married April 17, after which they will go to China. Moore is with Standard Oil Company in Shanghai, China. He is now visiting his parents in Ramsey, New Jersey, though his future address will be 11 Canton Road, Shanghai.

Allyn Hoffman is secretary and manager of the Hoffman Nurseries at Elmira, New York. His address is 921 Hoffman Street, Elmira, N. Y.

Harold Tenny now owns a farm in Little Britain, Orange County. He

continues, however, to manage a farm in Plattekill, Ulster County, so that his interests are somewhat numerous.

Louis A. Zimm, M.F., on January 1st, accepted a position with the American Forest Products Company of 292 Madison Avenue.

#### '17

Herbert L. Beecher is farming at Livonia, N. Y. He raises hot house lambs, certified seed potatoes, and cabbage. He recently cooperated with the department of vegetable gardening in conducting tests on blue sprouts.

The marriage of Edward Frey to Miss Roberta Louise Sheridan took place on December 29 at Berkeley, California. The writer has lost track of Eddie's address and would appreciate a note from any one who knows what it is. His last address, so far as we know, was Fresno, Cal., but apparently he is no longer there.

Edward C. Trumbull is a rural school teacher at St. Johnsville. His address is R. F. D. No. 2, St. Johnsville, N. Y.

John Wigsten is a milk dealer handling A grade at Horseheads, New York.

#### '18

Tracy B. Augur is now employed by the city of Dearborn, Michigan, as a landscape architect and aids in helping to make this famous city more beautiful.

William Boshart is keeping the home farm going at Lowville, N. Y.

Arthur Hoffman is now farming at Elmira, New York, on R. F. D. No. 2.

Beatrice Hollenbeck is teaching in Candor, N. Y.

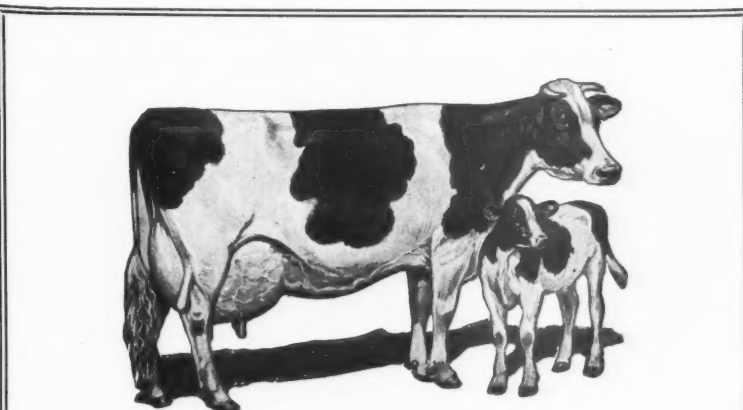
#### '19

Donald Tunis Ball is living on his 87-acre farm at Chittenango, New York, where he divides his time between general dairy work and raising alfalfa.

Cuthbert Fraser, formerly secretary of the National Standard Parts Association, a trade organization for manufacturers and jobbers of automotive replacement parts, has returned to Buffalo, New York, as office manager of the King Manufacturing Company. The King Company manufacturers automotive replacement parts, radio sets, and cream separators. His new address is 355 Linden Avenue, Buffalo, New York.

Jack M. Larson has left the agricultural field and gone into the motion picture business in Springfield, Ore.

H. A. (Steve) Stevenson is now employed by the MacMillan Publish-



## Holsteins For Profit

Holstein Supremacy in the production of milk and butter fat is further proved by the records that have been made under Agricultural College supervision. Of 131 purebred dairy cows in the United States that have produced 1,000 pounds or more of butter fat in one year, 104 are Holstein cows.

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**HOLSTEIN-FRIESIAN**  
ASSOCIATION of AMERICA

230 East Ohio St., Chicago, Ill.

ing Co. at 60 Fifth Avenue, New York. He is the head of the agricultural book department.

#### '20

Edison M. Collins is farming at Barnweld, N. Y.

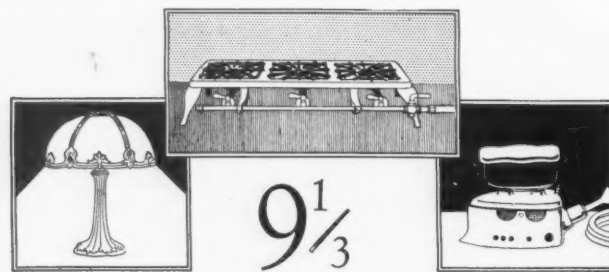
James Cusick, who received his Doctor's degree in dairy chemistry here in 1919, visited the University on March 1. He is now a chemist for the Atlantic and Pacific Tea Co., and

specializes in the chemistry of canned foods. His home address is Brockport, L. I.

Alberta Dent has left her position as dietitian at Highland Hospital, Rochester, and is taking graduate work in nutrition.

"Archie" Robertson, who for several years has been associated with Dr. Breed of the New York Agricultural Experiment Station at Geneva





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"My Colt Light Plant over a period of eight years has cost me an average of 9 <sup>1</sup>/<sub>3</sub> cents per day for operation.

"I have full service from 12 lights in my home and barns. My wife enjoys the great convenience of the Colt Hot Plate for cooking, and she finds it twice as quick and easy to iron with the Colt Iron.

"Our Colt Plant has always given us complete satisfaction. We only

refill it three times a year with Union Carbide—the rest of the time we don't even have to touch it."

Very truly yours,  
(Signed) E. Wilbert Bullock

More than 145,000 American farmers have installed Colt service in their homes during the past 26 years. Colt Plants are very low in price. They may be paid for on liberal terms by those who own their farms.

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The sale of Colt Plants offers a great opportunity for the ambitious farm-trained man. Write our nearest office for full particulars.

as an assistant bacteriologist, has accepted a position as Dairy Bacteriologist at the Vermont State Experiment Station. This is a new position at the Vermont Station and Archie expects to establish a strong department. While at Geneva, he wrote several bulletins and was also secretary of the New York State Branch of the Society of American Bacteriologists. He assumed his new duties

February 1. His address is Burlington, Vermont, in care of the State Agricultural Experiment Station.

Willard Folts Stanton was married September 1, 1925, to Miss Ruth C. Ketchum. He lives at Moravia, New York, R. F. D. No. 7, and is farming.

C. W. Ten Eick is still in Florida. He breaks out in print quite frequently now, his most recent article

being "Matchless Money" published in the November 7, 1925, issue of the "Florida Grower."

Henry Veghte is a milk dealer in Amsterdam, New York.

R. M. Volkert, M.F., is now located in Philadelphia. His address is Apartment 204, Drexel Court, Drexel Hill, Pa. Bob is with the Union Lumber Company, manufacturers of California redwood. He writes that Kurt Mayer '20 lives just a short distance from him. Incidentally, Kurt and Walker Smith '20 were visitors in Ithaca last fall.

'21

H. B. Bosworth has since last summer been with the Los Alamos Ranch School at Otowi, New Mexico. Bosworth writes that he has charge of all of the outdoor activities of the school; that he teaches mathematics and has an intensely interesting time in exploring little known country and in working with the boys in the school. One of these days he hopes to have a "Dude Ranch" of his own.

Stanley Dann is doing general farming near Horseheads, N. Y. His address is R. F. D. No. 2, Horseheads, N. Y.

Helen H. Glasier is assisting in the public library in Buffalo, New York. Her home is 228 Herman Street, Buffalo.

Harold C. Grinnell is running a farm at Broadalbin, New York.

R. B. Mead has risen to the position of District Sales Manager of the Syracuse Washing Machine Company and now has a considerable force of employees to occupy his time. His address is 203 County Street, Taunton, Mass.

O. M. Watkins, teacher of agriculture at Geneva, New York, was selected by Commissioner Sullivan of the State Department of Education as a member of the Regents' committee for high school comprehension examinations for seniors in agriculture.

'22

Ardella Farnsworth is teaching school at Wadhams, New York.

R. J. "Bob" Howard made his annual visit to civilization when he returned to Farmers' Week. "Bob" is inveigling the lacteal fluid from the bonnie bossies in the wilds about Sherburne. "Bob" is still on the lookout for a comely cavewoman to help him with his labors.

Llewellyn V. Turner is teacher of agriculture and principal of the high school in Wyoming, N. Y.

We regret to announce the death of Loren S. Kibby at Ogdensburg, N. Y., on March 6. Kibby was formerly the county agent of Greene County at Catskill, New York. We wish to extend our sympathy to all those who were near and dear to him.

'23

A. E. "Ace" Ray recently left his job as salesman for the Park and Pollard Feed Co. to enter the advertising game with the *American Agriculturist*.

Mrs. W. Henry Hutchings, formerly Esther Davis, can be reached at Webster Groves, Missouri.

### Two Zoologists in the Southwest

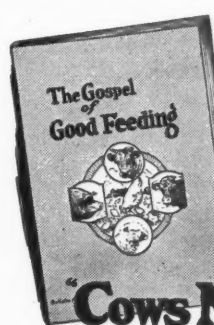
(Continued from page 213)

same time snatched the snake. It was the rare ornate racer.


July 18—Went to Huedo tanks, east of El Paso with Col. M. L. Crimmins and Mrs. R. B. Alves. The Colonel was showing Miss Leary how to noose a lizard. As she snatched up the noose the lizard slipped out and was thrown fifteen feet into a bush beside me. The bush moved; I grabbed the movement. Imagine my surprise when I found it was not a lizard but the rare ornate racer I had in hand. He must have moved when prey landed in the bush. I put him in a cheese cloth bag and put it on my belt where I often carry my live game. But alas, I did not tie it on, and in my climbings, it slipped from my belt. "Never mind," say my friends, "we will catch you one some other time." (Sure enough they did, and sent me three alive.)

WE left San Antonio, July 1—Our course led from Devil's and Pecos Rivers to Davis Mountains where we hoped to join the Texas University Geological Summer School in the Big Bend country. They had to postpone their trip, and we went onward to El Paso. We zigzagged up and down New Mexico, finally leaving that state at Lordsburg. We visited Pinaleno, Driest, Huachaca, and Santa Rita Mountains in Arizona. From Phoenix we went to Ajo, Yuma, Colorado Desert and Pomona College, Claremont. Thence we turned eastward to Mohave Desert to Las Vegas, Nevada, and then across northern Arizona and New Mexico into the Panhandle of Texas. We hurried through Oklahoma, Arkansas, Tennessee, Missouri, Illinois, Indiana, Ohio and New York. In all we covered 18,000 miles—15,000 of it in a trusty Ford.

Mrs. Wright's notes give these pictures of us as we left El Paso, and as



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Your juicy spring pasture is good feed but it is not enough to produce a full flow of milk and maintain the condition of your cows at the same time. The Minnesota Cow Testing Associations have proved the truth of this:

Farmers owning 700 cows fed nothing but grass during spring and summer. Farmers owning 300 cows fed a grain mixture with pasture. They were all fed alike during the winter. The records for one year show the following amazing results:

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Number of cows	700	300
Butterfat per cow	238 lbs.	302 lbs.
Cost of feed per cow	\$41.87	\$49.85

The cows which had grain every day during the year produced 64 pounds of butterfat per cow more than those that had pasture alone. It is true that their feed cost was slightly more than pasture, but let's see about the net profit:

To 64 lbs. extra butterfat at 40c	\$25.60
Less grain, per cow for pasture	7.48
Extra profit each grain fed cow	\$18.12

You can duplicate this success and get these extra profits from your cows by giving them a Corn Gluten Feed ration when they go on pasture. They will stay fresh longer, and go into next winter in better condition.

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Feed Research Department  
Hugh G. Van Pelt, Director  
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No. 36



# Apollo

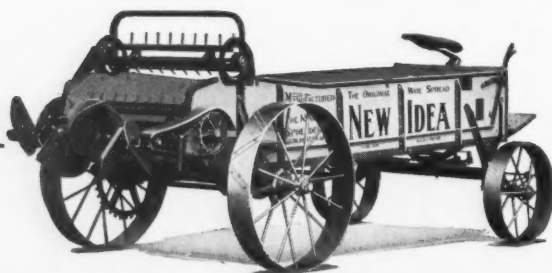
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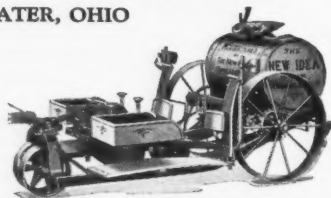
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A dairy utensil when working efficiently contains no unrinsed grease or chemical film on its metal surface. A dairy utensil containing such an unrinsed grease or chemical film is indeed a costly worker.

For over a quarter of a century

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Cleans Clean  
Sanitary Cleaner-Cleanser

has constantly increased its number of users because it is free rinsing, and because it leaves no unrinsed grease or chemical film—no overalls—on washed dairy surfaces to contaminate milk or milk products.

Wyandotte Sanitary Cleaner and Cleanser is a greaseless, sudsless cleaning material that leaves all washed surfaces sanitariously clean and sweet smelling. Nor does Wyandotte contain anything harmful to washed surfaces or to the hands of the washer.

Wyandotte Cleans Clean

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in every package

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Mich.



we came into Ithaca. "On the back of our car we had a large chuck box, filled, not with food as its proper load is, but with books, vials, and photographic plates. But even with that library behind us, we couldn't have our two latest additions, *Van Denburgh's Reptiles of the Pacific Coast* so far away, so they must ride at my feet. The precious plains-rattlesnake rode in a box on the side of the car, sunk deep under another box. The back seat was filled with cameras and camera equipment. The bedding roll, large because it contained a mattress pad, rode between the back and front seat. And under it and at the ends were our chief shelters for our pets. And this particular time we had a box of little modest horned toads, *Phrynosoma modesta*. Alas, the cover came off the box and they disappeared somewhere into the load. Two separate boxes of lizards, a box of small snakes, beautiful little orange-banded Sonoras were too precious to be trusted out of sight, so they must be held or stood on the seat between us—a difficult arrangement of course if one had to leap out quickly after more game or to push the car in the sand. We were hardly conscious of the turtles that were riding on the side of the car until we came out from the restaurant in Alamogordo, and found a group of men gathered around our car. One man said to us, "There's a rat in there. I've walked all around the car and he's right in there"—pointing to the running board. Surely enough the noise was "right in there" but our turtle passengers were the culprits. We felt like a new edition of *The Old Woman Who Lived in the Shoe* for we had so many good pets we didn't know what to do. So we stopped at the hotel in Alamogordo and had a siege of photography and descriptions from life before we went on our way.

A FRIEND in El Paso dubbed our car "Scientific Henry," but by the time we had it well loaded on our return, a man at a garage in Indiana remarked, "Well, I didn't know whether it was a Ford or a pack mule." Had you seen us driving into Ithaca last September, I think pack mule would have expressed what came to your mind. A plant press was riding on the front fender, the running board on one side was carrying a large box of preserved specimens (the box often mistaken for a fireless cooker), two five gallon cans of water and gasoline, a fish can, two pails, a large seine, a box with a gila monster in



## A Big Problem Solved

The farmer's big problem is to insure a margin between production costs and net selling prices—in other words, to make money.

In Bulletin No. 1348, the U. S. Dept. of Agriculture points out clearly *the only way the farmer himself can go about doing this*—by reducing the high average cost of power and labor (now sixty per cent of total production costs.)

Power and labor costs can be reduced, and greatly, but in only one way—by better farming methods, made possible by better equipment, especially of labor saving machines.

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it, a rattlesnake and other snudries. We may have looked as if we should have been in a prairie schooner with all our worldly goods, but we were happy for we hand-captured and brought home 1,000 small animals and taken 1,500 pictures."

We will not pretend to give our impressions of the big southwest. We found fine, rugged characters, warm hearts, courageous spirits, enterpris-

ing leaders, ambitious youth, and experienced councillors—all set to the huge task of conquest of desert distances and arid areas. Here lie agricultural opportunity, mining, and oil possibilities, engineering tasks, and courageous ventures worthy of appeal to any resourceful, hardworking young man or woman who wants to grow into rugged American characters.

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# The Campus Countryman

Around the  
Top of  
"The Hill"

Volume VII

Ithaca, New York, April, 1926

Number 7

## AG CAMPUS PEP ERUPTION SCHEDULED FOR APRIL ONE

### Denim Trousers and Gingham Dresses to Usher in Old Spirit

The care-worn, spirit-seeking students of the hill-top campus have completed deep-laid plans for a grand bacchanalia to be held on April 1 in the Old Armory.

The old time mountain of ag-college spirit, which has resembled an extinct volcano for several college generations has within the past few weeks been bubbling up through the crust of diverse interests, until University psychologists predict a fresh eruption of the slumbering giant.

Suspicious geyser like outbursts have occurred at intervals during the last month, and fumaroles of pep have begun to steam on various parts of the ag campus.

Sociologists have marvelled at the sudden reappearance of "group consciousness" on the part of ag students. The rural social organizations department will

have research workers on hand to study the April riot, and as a result of their study they will probably publish a list of precepts to be followed by dead groups that wish to revive.

Authorities tell us that the fracas is to be the most sensible April-fool stunt ever run off in the collegiate world. Overalls for the gents and gingham dresses for their fair partners will impress upon all present that the farmer and home-maker element of the campus is behind it all.

An important consideration in connection with the dance is that admission is not restricted to ag students. Its promoters inform us that it is an all-university affair, but that it is being run by the aggies through their agricultural association.

Students in other colleges are showing an obvious interest in the promised outbreak of spirit, and it is expected that lawyers, doctors, engineers, and poets will don their denims and partake of the fun along with the ags and domeconers.

A fact to be noted carefully by the gentlemen who attend is that a fine of \$1.00 is to be imposed by the chap-

erones upon any couple who arrive at the ballroom in a taxi. The committee on arrangements suggests that the proper conveyance in which to arrive is either wheelbarrow, jinriksha, or buggy. In case these are unobtainable "shank's horses" will do equally well.

A committee on nomenclature has chosen to refer to the anticipated event as the "Hick's Hop." They are looking forward with expectant grins to the mardi-gras like galaxy of pseudo-Reubens and their feigned rural costumes.

## OLYMPIAN MUSIC OBTAINED FOR BIG FARMERS' FROLIC

### University Students Renting Suits for Use at Informal Ball

The old drill hall will become a combined "arm-ory" and "leg-ory" on the night of April 1 when the long looked for farmers' ball will take place in that edifice.

The ag pep doctors have insured the success of the undertaking by securing the famous "Isle o' Blues" orchestra for the occasion. This orchestra, which hibernates at Col-

gate, spent last summer soundng syncopations in gay Paris. They have refused an invitation to play for an "all-gods hop" to be given by Jupiter and Juno in their Olympic ballroom, solely to accommodate the local dance fans on that gala night.

The music of the "Isle o' Blues" instruments will be mellowed and further beautified by an environment of hay bales and corn shocks that will lend a distinctly non-urban aspect to the



An atmosphere of unhampered congeniality and absolute informality will be carefully cultivated and encouraged, as a stimulus to the resurrection of the spirit that will assuredly awake from its prolonged slumber.

### STUDENTS IN MARKETING FORM PERMANENT GROUP

Students interested primarily in farm marketing held an informal get-together on March 5, when plans for future meetings were laid.

Professor H. A. Ross presided and helped lead the discussion. Professor G. F. Warren talked on marketing conditions, concluding with the prediction that future enrollment in marketing courses will be greater.

After the speaking a permanent chairman was elected, and directed to appoint a committee to help him in the work of arranging future meetings of the group. L. P. "Pete" Ham '26, chairman, appointed I. F. Hall and W. "Pete" Powell, grads, and A. Kurdt '26, R. K. "Bob" Mitchell '26, and G. F. "Gid" Britt '27 to serve on the committee.

whole affair.

In the intervals between dances there will be exhibitions given by famous clog dancers, and other varieties of entertainers.

The promoters of the promised struggle assure us that the whole evening will be a great centrifugal pep machine that will whirl a feeling of life and spirit into everyone there, and will completely renovate and reorganize the mentality of the whole ag campus.

A special invitation is given to all who cannot dance, or those who have despaired of ever learning how. It is promised that such individuals will be wholly unable to keep their feet at rest, but will find those organs irresistibly irritated to the point of performing a graceful hay-mow charleston that will rival the antics of a Greenwich Village beauty.

The committee behind the dance wishes particularly to impress upon those who plan to attend that the specified uniforms for the evening are overalls for the men and gingham dresses for the girls.

## INCENDIARIES DISCOVERED AT FORESTRY CLUB MEET

**Frolicing Foresters Confine Fires to  
Cigars and Cigarettes**

The Forestry Club held a smoker on March 3, with its newly elected president, Seth Jackson, in the chair. After a short business meeting Professor Recknagel gave an informal report of his recent trip to New York where he attended the convention of the American Paper and Pulp Association as well as the annual meeting of the New York Section of the Society of American Foresters. From the reports the food is still of a very good quality in the big town. Professor W. K. Stone of the College of Architecture followed Professor Recknagel with some New England stories, told to the tune of a roaring fire in the fireplace. Professor Stone is well known on the campus as a humorist and story teller and only those who have heard him realize what a pleasant evening the Forestry Club enjoyed. Occasional outbursts of music were rendered by the Club's own "Male Order" quartette. The evening passed so rapidly that the members were scarcely ready for the call to eat, though they soon fell in line for the coffee and doughnuts. It was voted that this was one of the best meetings held so far. More like it are being planned.

## AG-DOMECON AFFAIR HELD IN WILLARD STRAIGHT HALL

One hundred sixty students and professors partook of the twenty-seventh ag-domecon banquet, held in Willard Straight Memorial Hall on March 9.

Professor "B. A." Bristow Adams '00 was referee-toastmaster for the program of professorial wit that made up the after-dinner entertainment. "B. A." introduced director Martha Van Rensselaer '00, Acting-Dean Cornelius Betten '00 and President Livingston Farrand as his three "bosses," and Professor G. F. Warren as a formidable colleague to be handled carefully.

Dean Betten, as first speaker, called attention to the present meeting of the state legislature, stating that the money for the long wished for plant industries building may or may not be forthcoming. This building, when completed, is to house five ag college departments.

Professor Van Rensselaer followed Dean Betten. She recalled an alleged dream in which she awoke from a ten year Rip Van Winkle sleep to find that the whole University had become concerned with home economics, and that all departments were shaping their instruction around problems of the home.

Professor Warren followed Professor Van Rensselaer's vision with a bit of history, referring to the period "just after the glacial age" when the ag college was in the embryo stage and home economics was yet no more than an idea.

President Farrand indulged in some playful criticisms of the preced-

## AG "C" MEN (Junior Smoker Awards)

Bardwell, E. T.  
Bowdish, A. C.  
Bissell, N. F.  
Brigden, J. K.  
Bright, T. M.  
Coykendall, J. E.  
Davis, D. F.  
Dayton, H. L.  
Dupree, W. J.  
Fratt, N. O.  
Frazer, J. E.  
Higley, P. I.  
Houghton, C. E.  
Jennings, C. A.  
Krouse, D. H.  
Lange, R. V.  
Mann, E. G.  
Mueser, R. E.  
Munns, R. B.  
Rice, P. K.  
Termohlen, R. T.  
Vanderbrook, C. A.  
Werly, C. M.  
Wright, B. F.

ing speakers. He finished by congratulating ag and domecon upon the success of their function.

Music for the evening was furnished by a trio from the Ithaca Conservatory of Music. The floriculture students were responsible for the table decorations, while several hotel managers did their stuff as waiters.

Group singing, lead by Professor H. E. Botsford of poultry, the gifted ag assembly song leader, made the lapses between courses seem less tedious than they might have been.

## CAMPUS COLLOQUIALS

A fifteen months leave of absence is in order for Professor W. W. Fisk of dairy industry. Professor Fisk leaves on April 1 when he will become consulting agent for the General Ice Cream Company, working in western New York territory. He will return to the College on June 30, 1927.

Professors G. W. Herrick and G. R. Crosby of entomology are among those on sabbatic leave this term. Dr. Herrick is visiting experiment stations and museums in Europe, while Dr. Crosby is "researching" in the Old World. They expect to return to Cornell next fall.

Dr. E. V. Hardenburg of veg gardening was a speaker before the potato section of the Ohio State Vegetable Growers' Association during Farmers' Week at Ohio State University on February 3rd.

The Ninth Annual Poultry Breeding and Judging School is to be held this year on June 28 to July 3 inclusive at the College.

Dr. A. L. Grant, who left her position as instructor in botany last February, is now head of the botany department at Huguenot College, Wellington, South Africa.

## RUSSIAN SCHOOL TO BENEFIT BY DOMECON PHILANTHROPY

**Club Establishes Annual Scholarship  
for Home Ec Senior**

At a March meeting of the Home Economics Club the organization pledged itself to provide household tools and machinery for an agricultural school in Russia.

The club was addressed by Mrs. H. B. Davis who is an interested supporter of the school. She told how in two and one-half years it grew from ten boys under a peasant leader to over one hundred children, nearly all orphans and formerly homeless.

At first a dilapidated house took the place of a campus, but now the school is housed in repaired quarters, where crops are grown on four hundred acres of ground. The girls in the colony do all the cooking, sewing, cleaning, washing, and other household work for the group.

The lack of equipment has been a great handicap, so by giving its support the Home Economics Club hopes to aid them in their work and introduce American standards and methods to a group which has known practically no home life.

An annual scholarship of fifty dollars for a senior woman in home economics, has been established as a further philanthropic move by the Club.

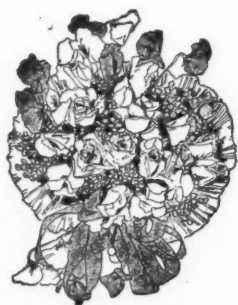
## DOMECON RADIO PROGRAM HEARD ROUND THE WORLD

News of Domecon radio talks has gone at least half way around the world, according to a clipping recently received from an Australian newspaper. The *Morning Herald* of Sydney, Australia, in an account of the college's use of radio, added that women in new South Wales also have an opportunity to hear lectures on food, clothing, and health by radio.

The college is continuing the talks started a year ago and plans to broadcast this year on subjects dealing with many phases of home life. The talks are scheduled on the program from WGY every Monday and Thursday afternoon at 2:40 o'clock. Letters about the talks have been received from all parts of New York state, and a number of listeners have written from Vermont, Connecticut, Massachusetts, New Jersey, and as far south as Georgia.

## OLD SMOKE STACK TOTTERS AS LITTLE TRACTOR CHUGS

March 12 saw the funeral of the old heating plant smoke stack that pointed its bricks into the air just north of the Poultry building. A charge of dynamite and a guy-wire pull given by a tractor served as sufficient stimulus for the complete demolition of the structure which was witnessed by a crowd of over a hundred. The old stack had been unused since the erection of the big new heating plant about three years ago. The chimney crumpled from the bottom up, until the upper rim finally yielded and left nothing but a heap of bricks.



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### ROUND-UP BOYS GATHER TO HEAR GOODY GOODMAN

Annual Banquet for An Hus Fans  
Held in Varna Hall

On the 8th of March the Round Up Club held the second last meeting of the term. Jimmy Dodge of the famous Emmadine Farms was scheduled to speak but last minute arrangements provided Professor "Goodie" Goodman of the local rural engineering department as the speaker of the evening. His talk was based on extensive mid-winter experiments in barn ventilation which Professor "Doug" Fairbanks and himself have made in the field. A bulletin will soon be published on the results of the work.

At a short spirited business meeting preceding the talk, during which the present officers gave their annual reports, the officers for the forthcoming year were elected. Their names follow: President, "Lee" Blanding '27; Vice-president, Harold Cowles, sp.; Secretary, Lyle Arnold '27, and Treasurer, "A" Clark '28. "Lee" Blanding was also elected toastmaster for the annual Round Up banquet which was given on March 22 at the church in Varna. Professor L. P. Wilson of the College of Law was the principal speaker and managed by a line of jokes to hold the attention of the banquetters who were already held down by the amount of victuals stored away during the previous hour.

### REQUESTS FOR BULLETINS KEEP STAFF ON THE MOVE

More evidence of the services of various kinds rendered by the college: a woman who has been blind for thirteen years recently wrote a five-page letter to the State College of Agriculture and asked for bulletins to help her beautify her home.

Another request which came recently to the College inquired about poultry bulletins, and was written from the state penitentiary at Auburn. The writer wanted bulletins which would enable him to make a fresh start in life later on.

Of the hundreds of requests which come to the College every day, about one hundred a day have to be opened and read before they can be routed to the proper department or person who is able to supply the needed information or help.

Many are addressed to the dean, and request such services as planning dairy barns, working out crop rotations, analyzing farm businesses, determining costs of production, how to run an ailing gasoline engine, or how to lay out a drainage system.

### INCUBATOR ITEM

The poultry department is busy with breeding season activities. According to the salesman in the poultry building the department had over twenty thousand eggs in incubation by the middle of March. On the particular Saturday morning when we obtained this information the sales room had found a market for seventy-five dozen eggs before eleven o'clock.

### OMICRON NU

Jane Lay  
Helen Paine  
Beatrice Pringle  
Grace Ware

### PROFS PRANKS

Miss Martha Van Rensselaer '00 spoke March 18th at a mass meeting of the American Women's Association at Madison Square, New York City, representing the professional women of New York State. From March 2 to 5 she was in Washington attending a Conference of State Extension Leaders, chosen as best representing that group from their state. On her way back from Washington, she addressed the Mt. Vernon League of Women Voters in New York City.

Professor G. A. Works, of the rural education department, left early in March to make a study of library facilities in the United States in cooperation with the American Library Association. His present trip will take him through Chicago, Minnesota, Oregon, and California. Before returning in May, Professor Works will assist as special advisor to the Bureau of Education in a survey of the schools of Utah.

Professor J. E. Butterworth will also have charge of a part of the survey in Utah. He will be absent from Cornell for three weeks in April to make a study of the school buildings in Utah.

Professors R. M. Stewart and Cora Binzel attended a regional conference called by the Federal Board for Vocational Education at Washington, March 8-13.

Professor Paul Kruse, of rural education, will attend during the first week in April a meeting of the New York Literacy Test Commission, whose purpose is to develop tests of literacy for new voters.

Professor and Mrs. J. H. Comstock are spending the winter at Mentone, France. They expect to return to Ithaca during April.

### GIRLS CHOOSE TASSELS

The breach between Ag and Domecon will be further emphasized at graduation time this June, when the home economics seniors will blossom forth with blue-green tassels on their commencement caps. The new hues replace the corn color that has been the traditional tassel for students in the College of Agriculture. One ag student made a rather mean remark when he suggested that the green was probably chosen as a symbol for the youth of the fair young college, while the blue, he thinks, might be taken as symbolic of the girls' grief at the separation of the colleges.

### DEAN A. R. MANN WRITES OF NORTH EUROPEAN TOUR

President Farrand Receives Letter  
Describing Winter Journey

Dean A. R. Mann, who is still traveling in Europe, recently wrote to President Farrand from Riga, Latvia. A quotation from his letter follows:

"I am in the midst of a very rapid swing through Denmark, Norway, Sweden, Finland, Esthonia, Latvia, Poland, Czechoslovakia, etc.

"This north country is simply superb this winter. The cold has been exceptionally severe and the snow is very deep. I had to cross the Baltic Sea from Stockholm to Abo, Finland, a boat run normally of 14 hours. It took us 36½. The sea is frozen tight from Stockholm north. By constant use of ice-breakers and heavy traffic, a narrow channel has been kept open. It freezes after each boat and retards traffic. We had an ice-breaker ahead most of the time. The edge of the unbroken ice is 30-40 inches thick and there is a cover of 18-24 inches of snow. The sea is full of islands, now great snow heaps from which the coniferous forests project. It was a capital journey over this frozen expanse. The first night out, in a dense fog, we rammed a merchant ship, tearing a big hole in her bow and a smaller hole in our own plates. Fortunately, both were high up. Because of the ice there are no waves so there was little risk in proceeding. Second night, in the fog, we were slammed against an ice-breaker in trying to pass where the channel was too narrow. The constant fog from 4 p. m. to 10 a. m. was a great handicap."

### Flys from Finland

"Having gotten in to Finland, I was up against it to get out again, as I needed to come down the eastern Baltic side. The Gulf of Finland was frozen completely. A channel had been kept open across to Reval until about two weeks ago, when it also frozen up. My alternatives were to return to Stockholm and make a long southern circuit, requiring 4 to 5 days; or go via Petrograd, a somewhat uncertain and little used route; or to fly. So I flew across the 45 miles of the frozen Gulf of Finland. It was a most interesting experience. We left Helsingfors at 5 p. m. of a clear, bright winter evening and reached the other side in about 30 minutes. Meanwhile fog had settled down at Reval so that the pilot could not quite locate his station. He made a comfortable landing on the ice and coursed around on it for a while. By use of a few pistol shots, the attendants from the station soon located him and brought us "home."

### SCOUTS PRACTICE

Girl scouts have found the rural engineering labs a convenient place to practice household mechanics. A group of scouts spent two afternoons in the labs during the second week of March where they practiced putting up shelves, handling wrenches, and doing various odd jobs in preparation for proficiency tests.

## The Wisteria Garden

Opposite Strand



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H. V. Miles, '08

## Strand Theatre

April 1 - 3

HELENE COSTELLO

in

"The Love Toy"

and

Five Acts of Vaudeville



April 4 - 7

RICHARD BARTHELMESS

in

"Just Suppose"



Coming—"Three Faces East"

*April 1, no fooling*  
(the best April Fool date you ever had)

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Some of the attractions:

your girl  
five foolish stunts  
cider and doughnuts  
suspenders and calico  
isle-o-blues orchestra  
yourself

*The Old Armory*

tickets — one seventy five

See Below for  
Approved Costume



## CAMPUS CHATS

We take this opportunity of expressing to Professor James E. Rice our profound regret and sympathies on the loss of Mrs. Rice, who passed away on February 18. Surely we are voicing the feelings of Cornellians the country over in bearing with him at this time of sorrow.

Tennyson's statement that "the old order changeth, yielding place to new" is nowadays only partly true; orders change all right, but they change before they get old. Today the "young order changeth yielding place to younger." For instance, agricultural colleges are practically new institutions, but a definite change in their character is already taking place. Professor Whetzel suggests that agricultural colleges are rapidly becoming schools of biological science. Whether that is or is not the trend, it is obvious that here on the ag campus our college is assuming some new functions and changing its methods of performing the functions that carry over from recent years. But this change is natural and timely; it parallels the changing conditions and standards of rural life, the changing of the nation's whole economic system to a "tempered" capitalism, and generally changing social and moral standards. It's all-fired interesting to be an undergraduate and watch the wheels go around!

Recently we were discussing with one of the professors the desirability of compulsory military drill for students in the University. He made the remark that, even though the value of drill from a physical, moral, or intellectual standpoint may be negligible, the very fact that students dislike the course is reason enough for obliging them to submit to it. For, argued the professor, to be obliged to do that which one dislikes is good training for life. This is certainly convincing reasoning! We offer a better suggestion. Let us require that each student in the University devote an afternoon a week during his freshman and sophomore years to sweeping and keeping trim the walks about the campus. This will be admirable preparation for life (since most students have a peculiar dislike for such occupation), and has the added advantage of performing a valuable service to the community.

One group that still strives for the old spirit is the Agassiz Club. This group is guided by the precepts of the great scientist and naturalist for whom the club is named, Louis Agassiz. In their explorations among the great truths, and the wonders and the beauties of nature on Sunday hikes and occasional evening talks they find that fellowship which was once and can still be the spirit of ag, and which must always underlie the fullest appreciation of what agriculture means. Agassiz welcomes all who are in accord with its purposes.

## THIS 'ERE &amp; THAT 'AIR

C'mon, you Aggies! Get in step; let's resume our old-time pep! The hand of Bacchus points with scorn to see a group so spirit-shorn. We're like a bunch of puppet dolls, or like a flock of sheep in stalls that say "ma-ma" whenever they're punched, or holler "bah" before they've lunched. Our heads are only light in specks, they sit so heavy on our necks; while few and fleeting are the grins that drop our firm-set jaws and chins. Our eyes are dull, they have no glow; they're always on the ground below. We drag our feet along like lead, we wonder why we feel so dead, and think that life is pretty flat. (I guess it is, for us, at that!) Why can't we rise above this stuff; won't we ever get enough? We ought to brighten up a bit (these "cemetery looks" don't fit), and show our colleagues on the hill that we have got some spirit still. Now here's one thing we'd better do;—we'd better get tickets for two and get some dome-coner gals, (you know they make delightful pals), and head for that "barnwarmin'" dance, (B'gosh, now, buddies, here's our chance). And when that dance is in the past, let's make the peppy spirit last!

The poultry department advocates the "removal of cracks" when grading eggs for market. Another Humpy-Dumpty wise crack!

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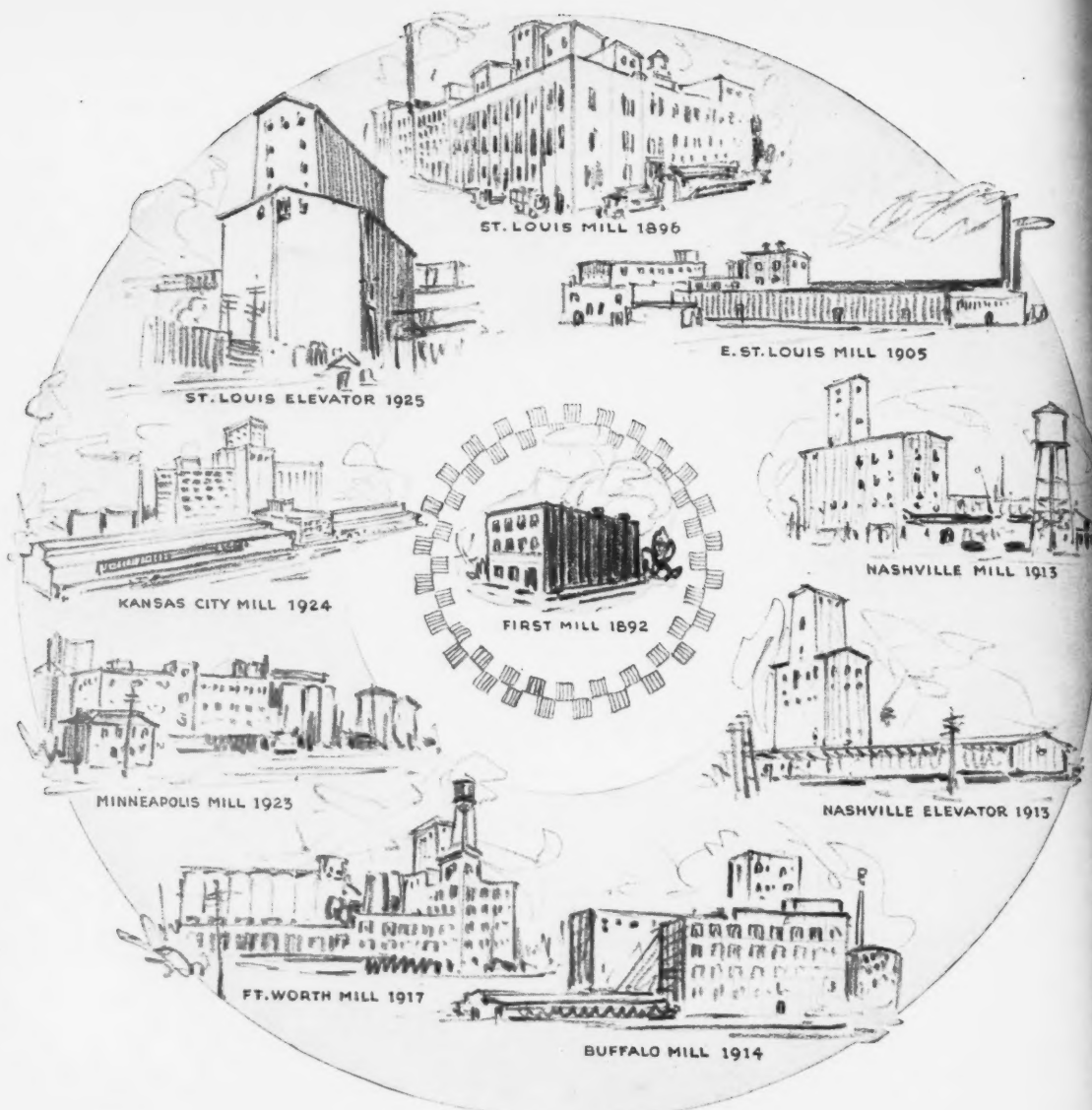
## The New York State College of Agriculture

is the largest in the United States  
New York ranks seventh among all States  
in value of agricultural products  
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and has the largest urban population

But it has good farmers and good markets  
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rations produced and sold on the basis of more results per pound of feed.

Today, in the Purina sales, research, and executive departments alone, there are over one hundred and fifty college graduates. More are being added every year.

Tomorrow will see still greater growth. An institution founded on such service and results *must* grow. And it will be more than the growth of mills. It will be the growth of men.

## PURINA MILLS

St. Louis, Missouri

Buffalo

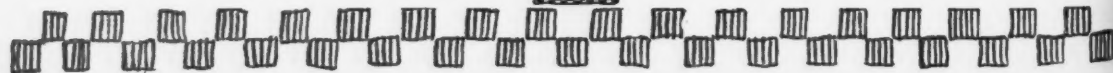
Fort Worth

Kansas City

Nashville

East St. Louis

Minneapolis











## Look before you leap

**S**OME farmers think that all they need to electrify a farm, is a power line running to the house.

That is just the *first step*. To make electricity pay, the farmer must have equipment which will increase his production and lower his costs at the same time.

At Ripon, Wis., electricity is pumping and heating water, grinding feed, milking, separating, running concrete mixers and incubators—*doing productive work* as well as being a comfort and convenience to the farmer. In seventeen states responsible men are testing electrical equipment for all farm purposes.

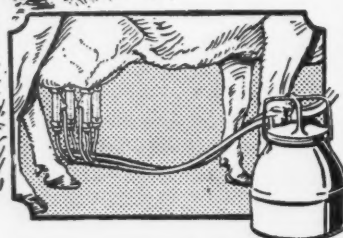
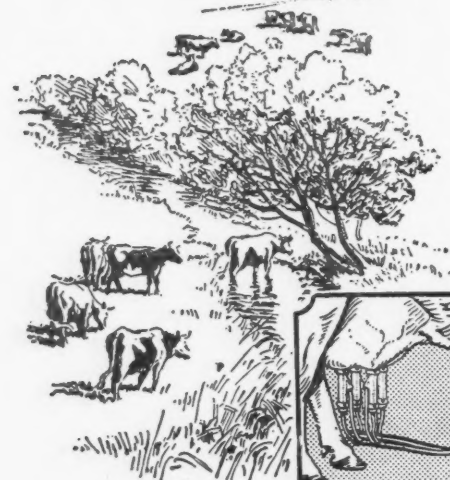
Don't try to get electric power or equipment before you know how to use it *profitably*. Light and power companies everywhere are ready to cooperate with groups of farmers who are in a position to electrify their farms in a sound, economical way.

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